

Chapter 2 Review Packet

Directions:

In the box provided next to each target section, put an (S) if you were able to complete the section by *yourSELF*, an (H) if you received a *minimal* amount of *HELP* from me, a classmate, or another source, or a (D) if you felt the section was *DIFFICULT* and required you to get *a lot* of help. This will help provide you by giving you feedback as to what topics you should be focusing on as you prepare for the test. THIS IS DUE THE DAY OF THE TEST.



Target 2A

Solve each equation. Show your work and check your answer.

1. $8 = a - 2$

$$\begin{array}{r} +2 \quad +2 \\ 10 = a \end{array}$$

$a = 10$

2. $x + 7 = 11$

$$\begin{array}{r} -7 \quad -7 \\ x = 4 \end{array}$$

~~$x = 4$~~

3. $-4.4 = -4y$

$$\begin{array}{r} -4 \quad -4 \\ 1.1 = y \end{array}$$

$y = 1.1$

4. $2.8c = 4.2$

$$\begin{array}{r} 2.8 \quad 2.8 \\ c = 1.5 \end{array}$$

$c = 1.5$

5. $\left(\frac{k}{6}\right)8 = 8$

$k = 48$

6. $16 = \left(\frac{w}{8}\right)8$

$w = 8 \cdot 16$

$w = 128$

7. $\left(\frac{3}{5}n\right) = 12$

$$\begin{array}{r} 12 \cdot \frac{5}{3} \\ = \frac{60}{3} \end{array}$$

$n = 20$

8. $-4 = \left(\frac{2}{3}b\right) \frac{3}{2}$

$b = -4 \cdot \frac{3}{2}$

$b = -6$

9. $7n + 12 = -23$

$$\begin{array}{r} -12 \quad -12 \\ 7n = -35 \end{array}$$

$n = -5$

11. $\frac{k}{4} + 6 = -2$

$$\begin{array}{r} -6 \quad -6 \\ \frac{k}{4} = -8 \end{array}$$

$$4\left(\frac{k}{4}\right) = (-8) \cdot 4$$

$k = -32$

10. $\frac{t}{6} - 3 = 8$

$$\begin{array}{r} +3 \quad +3 \\ 6\left(\frac{t}{6}\right) = 11 \end{array}$$

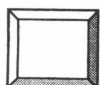
$t = 66$

12. $-22 = -8 + 7y$

$$\begin{array}{r} +8 \quad +8 \\ -14 = 7y \end{array}$$

$$\begin{array}{r} -14 \quad -14 \\ 7 \quad 7 \\ -2 = y \end{array}$$

$-2 = y$



Target 2B

Solve each equation. Show your work and check your answer.

1. $42j + 18 - 19j = -28$

$$\begin{array}{r} 23j + 18 = -28 \\ -18 \quad -18 \\ 23j = -46 \\ \frac{23j}{23} = \frac{-46}{23} \\ j = -2 \end{array}$$

14. $-49 = 6c - 13 - 4c$

$$\begin{array}{r} -49 = 2c - 13 \\ +13 \quad +13 \\ -36 = 2c \end{array}$$

$$\begin{array}{r} -36 \quad -36 \\ 2 \quad 2 \\ c = -18 \end{array}$$

15. $-28 + 15 - 22z = 31$

$$\begin{array}{r} -13 - 22z = 31 \\ +13 \quad +13 \\ -22z = 44 \\ \frac{-22z}{-22} = \frac{44}{-22} \\ z = -2 \end{array}$$

$$\begin{aligned}
 16. -3 &= -3(2t - 1) \\
 -3 &= -6t + 3 \\
 -3 &\quad -3 \\
 \hline
 -6 &= -6t \\
 -6 &\quad -6 \\
 \hline
 1 &= t
 \end{aligned}$$

$$\begin{aligned}
 17. x - 2(x + 10) &= 12 \\
 x - 2x - 20 &= 12 \\
 -x - 20 &= 12 \\
 \quad +20 \quad +20 \\
 \hline
 -1(-x) &= (32) \cdot 1 \\
 x &= -32
 \end{aligned}$$

$$\begin{aligned}
 18. -15 &= 5(3q - 10) - 5q \\
 -15 &= 15q - 50 - 5q \\
 -15 &= 10q - 50 \\
 +50 \quad +50 \\
 \hline
 35 &= 10q \\
 \frac{35}{10} &= \frac{10q}{10} \quad q = 3.5
 \end{aligned}$$

$$\begin{aligned}
 19. -8x - (3x + 6) &= 4 - x \\
 -8x - 3x - 6 &= 4 - x \\
 -11x - 6 &= 4 - x \\
 \quad +x \quad +x \\
 \hline
 -10x - 6 &= 4 \\
 \quad +6 \quad +6 \\
 \hline
 -10x &= 10 \\
 \frac{-10x}{-10} &= \frac{10}{-10} \quad x = -1
 \end{aligned}$$

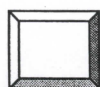
$$\begin{aligned}
 20. 14 + 3n &= 8n - 3(n + 2) \\
 14 + 3n &= 8n - 3n + 12 \\
 14 + 3n &= 5n + 12 \\
 \quad -3n \quad -3n \\
 \hline
 14 &= 2n + 12 \\
 \quad -12 \quad -12 \\
 \hline
 2 &= 2n \quad n = 1
 \end{aligned}$$

$$\begin{aligned}
 21. -(3z + 4) &= 6z - 3(3z + 2) \\
 -3z - 4 &= 6z - 9z - 6 \\
 -3z - 4 &= -3z - 6 \\
 +3z \quad +3z \\
 \hline
 -4 &= -6 \\
 \text{NO SOLUTION}
 \end{aligned}$$

$$\begin{aligned}
 22. -2(j - 3) &= -2j + 6 \\
 -2j + 6 &= -2j + 6 \\
 +2j \quad +2j \\
 \hline
 6 &= 6
 \end{aligned}$$

$$\begin{aligned}
 23. 0.5t + 0.25(t + 16) &= 4 + 0.75t \\
 0.5t + 0.25t + 4 &= 4 + 0.75t \\
 0.75t + 4 &= 4 + 0.75t \\
 -0.75t \quad -0.75t \\
 \hline
 4 &= 4
 \end{aligned}$$

$$\begin{aligned}
 24. 2.5(2z + 5) &= 5(z + 2.5) \\
 5z + 12.5 &= 5z + 12.5 \\
 -5z \quad -5z \\
 \hline
 12.5 &= 12.5
 \end{aligned}$$



INFINITE SOLUTIONS
Target 2C

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Solve for the indicated variable in the parenthesis.

$$\begin{aligned}
 25. \quad P &= IRT \quad (T) \\
 \frac{P}{IR} &= \frac{IRT}{IR} \\
 T &= \frac{P}{IR}
 \end{aligned}$$

$$\begin{aligned}
 26. \quad 2x - 3y &= 8 \quad (y) \\
 \quad +3y \quad +3y \\
 \hline
 2x &= 8 + 3y \\
 -8 \quad -8 \\
 \hline
 2x - 8 &= 3y \\
 \frac{2x - 8}{2} &= \frac{3y}{2}
 \end{aligned}$$

$$y = \frac{2}{3}x - \frac{8}{3}$$

$$\begin{aligned}
 27. \quad 7x - y &= 14 \quad (x) \\
 \quad +y \quad +y \\
 \hline
 7x &= y + 14 \\
 \frac{7x}{7} &= \frac{y + 14}{7} \\
 x &= \frac{y}{7} + 2
 \end{aligned}$$

$$28. 3\left(A = \frac{a+b+c}{3}\right) (b)$$

$$\begin{aligned}
 3A &= a + b + c \\
 -a \quad -a \\
 \hline
 3A - a &= b + c \\
 -c \quad -c \\
 \hline
 3A - a - c &= b
 \end{aligned}$$

$$3A - a - c = b$$

$$29. 4\left(x = \frac{2y - z}{4}\right) (z)$$

$$\begin{aligned}
 4x &= 2y - z \\
 -2y \quad -2y \\
 \hline
 4x - 2y &= -z \\
 -(4x - 2y) &= -(-z) - 1 \\
 -4x + 2y &= z
 \end{aligned}$$

$$30. ax + by = c \quad (y)$$

$$\begin{aligned}
 -ax \quad -ax \\
 \hline
 by &= c - ax \\
 \frac{by}{b} &= \frac{c - ax}{b}
 \end{aligned}$$

$$y = \frac{c}{b} - \frac{ax}{b}$$



Target 2D & 2E

Solve the following proportions.

$$31. \frac{1}{4} = \frac{x}{10} \quad 4x = 10$$

$$\frac{4}{4} \quad \frac{10}{4}$$

$$x = 2.5$$

$$32. \frac{3}{n} = \frac{2}{3}$$

$$\frac{2n}{2} = \frac{9}{2} \quad n = 4.5$$

$$33. \frac{r}{12} = \frac{3}{4}$$

$$\frac{4r}{4} = \frac{36}{4}$$

$$r = 9$$

$$34. \frac{5}{y} = \frac{-3}{5}$$

$$\frac{-3y}{-3} = \frac{25}{-3}$$

$$y = -8\frac{1}{3}$$

$$35. \frac{-3}{4} = \frac{k}{16}$$

$$\frac{4k}{4} = \frac{-48}{4}$$

$$k = -12$$

$$36. \frac{22}{a} = \frac{-6}{5}$$

$$\frac{-6a}{-6} = \frac{110}{-6}$$

$$a = -18\frac{1}{3}$$

$$37. \frac{n+4}{-6} = \frac{8}{2}$$

$$2(n+4) = -48$$

$$\frac{2n+8}{-8} = \frac{-48}{-8}$$

$$2n = -56$$

$$n = -28$$

$$38. \frac{10}{4} = \frac{z-8}{16}$$

$$4(z-8) = 160$$

$$\frac{4z-32}{4} = \frac{160}{4}$$

$$4z = 192$$

$$z = 48$$

$$39. \frac{x-3}{3} = \frac{x+4}{4}$$

$$3(x+4) = 4(x-3)$$

$$3x+12 = 4x-12$$

$$\frac{-3x}{-3x} = \frac{-24}{-3x}$$

$$12 = x-12$$

$$\frac{+12}{+12} = \frac{0}{+12}$$

$$24 = x$$

40. Sixty-two students, out of 100 surveyed, chose pizza as their favorite lunch item. If the school has 1250 students, how many students would likely say that pizza is their favorite if the survey is a fair representation of the student body?

$$\frac{62}{100} = \frac{x}{1250} \quad 100x = 77500$$

$$x = 775$$

The senior class is taking a trip to an amusement park. They received a special deal where for every 3 tickets they purchased they received one free ticket. 3 tickets cost \$53.25. The total purchase of tickets cost \$1384.50. How many tickets did they receive?

GROUP OF 4 COSTS \$53.25

$$\# \text{ OF GROUPS} = \frac{1384.50}{53.25}$$

$$26 \text{ groups} \times 4 = 104 \text{ TICKETS}$$



Target 2F

Find each percent.

42. What percent of 15 is 12?

$$\frac{12}{15} = \frac{x}{100} \quad 15x = 1200$$

$$x = 80\%$$

43. What percent of 120 is 200?

$$\frac{200}{120} = \frac{x}{100} \quad 120x = 20000$$

$$x = 166\frac{2}{3}\%$$

Find each part.

44. What is 75% of 180?

$$\frac{x}{180} = \frac{75}{100} \quad 100x = 13500$$

$$x = 135$$

45. What is 40% of 720?

$$\frac{x}{720} = \frac{40}{100} \quad 100x = 28800$$

$$x = 288$$

Find each base.

- 60% of what number is 75?

$$\frac{75}{x} = \frac{60}{100} \quad 60x = 7500$$

$$x = 125$$

47. 115% of what number is 120?

$$\frac{120}{x} = \frac{115}{100} \quad 115x = 12000$$

$$x = 104.3$$

48. A set of golf clubs that costs \$600 are on sale for 40% of the regular price. What is the sale price of the clubs?

$$\frac{x}{600} = \frac{40}{100} \quad \frac{100x}{100} = \frac{24000}{100} \quad \$240.00$$

49. A discount store marks up the merchandise it sells by 55%. If the wholesale price of a particular item is \$25, what should the retail price be set at?

$$\frac{x}{25} = \frac{155}{100} \quad \frac{100x}{100} = \frac{3875}{100} \\ x = \$38.75$$



Target 2G

Tell whether each percent change is an increase or decrease. Then find the percent change. Round to the nearest percent.

50. Original amount: 10

New amount: 12

$$\frac{12-10}{10} \times 100 = 20\% \text{ INCREASE}$$

51. Original amount: 72

New amount: 67

$$\text{DECREASE } -6.9\% \\ \frac{67-72}{72} \times 100 =$$

52. Original amount: 36

New amount: 68

$$\text{INCREASE } 88.8\% \\ \frac{(68-36)}{36} \times 100$$

53. Original amount: 23

New amount: 25

$$\text{INCREASE } 8.7\% \\ \frac{(25-23)}{23} \times 100 =$$

54. Original amount: 83

New amount: 41

$$\text{DECREASE } -50.6\% \\ \frac{(41-83)}{83} \times 100 =$$

55. Original amount: 19

New amount: 30

$$\text{INCREASE } 57.9\% \\ \frac{(30-19)}{19} \times 100$$

56. The price of the truck was advertised as \$19,900. After talking with the salesperson, Jack agreed to pay \$18,200 for the truck. What is the percent decrease to the nearest percent?

$$\frac{(18200-19900)}{19900} \times 100 = -8.54\% \quad -9\%$$

57. The Ragnier's purchased a house for \$357,000. They sold their home for \$475,000. What was the percent increase to the nearest percent?

$$\frac{(475,000 - 357,000)}{357,000} \times 100 = 33\%$$

MAKE SURE THAT YOU PUT YOUR (S), (H), (D) IN THE BOXES NEXT TO THE TARGET SECTIONS!!!